

AMENDMENTS TO THE CLAIMS

1. (Currently Amended) A synchronous induction motor comprising:
a stator having a main winding and an auxiliary winding;
a rotor having a yoke, a permanent magnet embedded in the yoke and a secondary conductor provided in a vicinity of a periphery of the yoke,
and
a starter ~~having~~ including:
a starting capacitor connected in series with the auxiliary winding;
a positive temperature coefficient thermistor connected in series with the auxiliary winding and the starting capacitor; and
a switching unit ~~that closes~~ operable to close a circuit to the auxiliary winding from the starting capacitor when the synchronous induction motor is at rest, and ~~opens~~ operable to open the circuit and thereby cut off current flowing to the positive temperature thermistor after the synchronous induction motor is started.
2. (Original) The synchronous induction motor according to claim 1, wherein the switching unit has a triac connected in series with the circuit and a trigger circuit to control the triac.
3. (Currently Amended) The synchronous induction motor according to claim 1, wherein the switching unit has a bimetal switch connected in series with the circuit and a heating element connected in parallel with the bimetal switch to ~~give thermal effects on~~ thermally affect the bimetal switch.
4. (Original) The synchronous induction motor according to claim 3, wherein the heating element has one of a positive temperature coefficient thermistor and a heater.

5. (Original) The synchronous induction motor according to claim 1, wherein the switching unit is a current relay having a coil connected in series with the main winding, a movable contact driven by the coil, and a fixed contact connected in series with the circuit to attach the fixed contact.

6. (Currently Amended) The synchronous induction motor according to claim 5, wherein the current relay further has a plunger incorporated with the movable contact, and the ~~current relay moves coil is operable to move~~ the plunger in the direction against ~~gravitation by the coil gravity~~ to close the circuit when the motor is ~~at start~~ started, and the plunger is operable to be moved by gravity so as to open ~~opens~~ the circuit ~~by gravitational forces on the plunger~~ after the motor is started.

7. (Original) The synchronous induction motor according to claim 1, wherein the switching unit is a voltage relay having a coil connected in parallel with the auxiliary winding, a movable contact driven by the coil, and a fixed contact connected in series with the circuit to attach the fixed contact.

Claim 8 (Cancelled).

9. (Currently Amended) An electric hermetic compressor comprising:
a hermetic housing;
a synchronous induction motor ~~provided~~ in the hermetic housing, the synchronous induction motor ~~having; including:~~
 a stator ~~with~~ having a main winding and an auxiliary winding;
 a rotor having a yoke, a permanent magnet embedded in the yoke and a secondary conductor provided in a vicinity of a periphery of the ~~permanent magnet yoke~~, and
 a starter including:
 a starting capacitor connected in series with the auxiliary winding;

a positive temperature coefficient thermistor connected in series with the auxiliary winding and the starting capacitor; and

a switching unit ~~that closes~~ operable to close a circuit to the auxiliary winding from the starting capacitor when the synchronous induction motor is at rest, and ~~opens~~ operable to open the circuit and thereby cut off current flowing to the positive temperature thermistor after the synchronous induction motor is started; and

a compression unit to be driven by the synchronous induction motor.


10. (Original) The electric hermetic compressor according to claim 9, wherein the switching unit has a triac connected in series with the circuit and a trigger circuit to control the triac.

11. (Currently Amended) The electric hermetic compressor according to claim 9, wherein the switching unit has a bimetal switch connected in series with the circuit and a heating element connected in parallel with the bimetal switch to ~~give thermal effects on~~ thermally affect the bimetal switch.

12. (Original) The electric hermetic compressor according to claim 11, wherein the heating element has one of a positive temperature coefficient thermistor and a heater.

13. (Original) The electric hermetic compressor according to claim 9, wherein the switching unit is a current relay having a coil connected in series with the main winding, a movable contact driven by the coil, and a fixed contact connected in series with the circuit to attach the fixed contact.

14. (Currently Amended) The electric hermetic compressor according to claim 13, wherein the current relay further has a plunger incorporated with the movable contact, and the ~~current relay moves~~ coil is operable to move the plunger in the direction against ~~gravitation by~~


~~the coil~~ gravity to close the circuit when the motor is ~~at start~~ started, and the plunger is operable to be moved by gravity so as to open opens the circuit ~~by gravitational forces on the plunger~~ after the motor is started.

15. (Currently Amended) The electric hermetic compressor according to claim 9, wherein the switching unit is a voltage relay having a coil connected in parallel with the auxiliary winding, a movable contact driven by the coil, and a fixed contact connected in series with the circuit to attach the fixed contact.

Claims 16-20 (Cancelled).

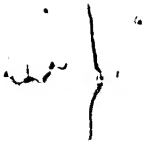
21. (New) A synchronous induction motor comprising:
a stator having a main winding and an auxiliary winding;
a rotor having a yoke, a permanent magnet embedded in the yoke and a secondary conductor provided in a vicinity of a periphery of the yoke; and
a starter including:
a starting capacitor connected in series with the auxiliary winding; and
a switching unit operable to close a circuit to the auxiliary winding from the starting capacitor when the synchronous induction motor is at rest, and to open the circuit after the synchronous induction motor is started, said switching unit including:
a triac connected in series with the circuit; and
a trigger circuit operable to control said triac.

22. (New) The synchronous induction motor according to claim 21, wherein said switching unit is arranged in parallel with the main winding so as not to consume electricity after opening the circuit to the auxiliary winding during steady operation of the synchronous induction motor.

23. (New) An electric hermetic compressor comprising:
a hermetic housing:
a synchronous induction motor in the hermetic housing, the synchronous induction motor including:
a stator having a main winding and an auxiliary winding;
a rotor having a yoke, a permanent magnet embedded in the yoke and a secondary conductor provided in a vicinity of a periphery of the yoke; and
a starter including:
a starting capacitor connected in series with the auxiliary winding; and
a switching unit operable to close a circuit to the auxiliary winding from the starting capacitor when the synchronous induction motor is at rest, and to open the circuit after the synchronous induction motor is started, said switching unit including:
a triac connected in series with the circuit; and
a trigger circuit operable to control the triac; and
a compression unit driven by the synchronous induction motor.

24. (New) The electric hermetic compressor according to claim 23, wherein the switching unit is arranged in parallel with the main winding so as not to consume electricity after opening the circuit to the auxiliary winding during steady operation of the synchronous induction motor.

25. (New) A synchronous induction motor comprising:
a stator having a main winding and an auxiliary winding;
a rotor having a yoke, a permanent magnet embedded in the yoke and a secondary conductor provided in a vicinity of a periphery of the yoke; and
a starter including:
a starting capacitor connected in series with the auxiliary winding; and



a switching unit operable to close a circuit to the auxiliary winding from the starting capacitor when the synchronous induction motor is at rest, and to open the circuit after the synchronous induction motor is started, said switching unit including:

a bimetal switch connected in series with the circuit; and

a heating element connected in parallel with the bimetal switch so as to thermally affect the bimetal switch.

26. (New) The synchronous induction motor according to claim 25, wherein the heating element has one of a positive temperature coefficient thermistor and a heater.

27. (New) An electric hermetic compressor comprising:

a hermetic housing;

a synchronous induction motor in the hermetic housing, the synchronous induction motor including:

a stator having a main winding and an auxiliary winding;

a rotor having a yoke, a permanent magnet embedded in the yoke and a secondary conductor provided in a vicinity of a periphery of the yoke; and

a starter including:


a starting capacitor connected in series with the auxiliary winding; and

a switching unit operable to close a circuit to the auxiliary winding from the starting capacitor when the synchronous induction motor is at rest, and to open the circuit after the synchronous induction motor is started, said switching unit including:

a bimetal switch connected in series with the circuit; and

a heating element connected in parallel with the bimetal switch so as to thermally affect the bimetal switch; and

a compression unit to be driven by the synchronous induction motor.




28. (New) The electric hermetic compressor according to claim 27, wherein the heating element has one of a positive temperature coefficient thermistor and a heater.

29. (New) A synchronous induction motor comprising:
a stator having a main winding and an auxiliary winding;
a rotor having a yoke, a permanent magnet embedded in the yoke and a secondary conductor provided in a vicinity of a periphery of the yoke; and
a starter including:
a starting capacitor connected in series with the auxiliary winding; and
a current relay operable to close a circuit to the auxiliary winding from the starting capacitor when the synchronous induction motor is at rest, and to open the circuit after the synchronous induction motor is started, the current relay including:
a coil connected in series with the main winding;
a movable contact driven by the coil; and
a fixed contact connected in series with the circuit to attach the fixed contact.

30. (New) The synchronous induction motor according to claim 29, wherein the current relay further includes a plunger incorporated with the movable contact, and the coil is operable to move the plunger in the direction against gravity to close the circuit when the motor is started, and the plunger is operable to be moved by gravity so as to open the circuit after the motor is started.

31. (New) An electric hermetic compressor comprising:
a hermetic housing;
a synchronous induction motor in the hermetic housing, the synchronous induction motor including:
a stator having a main winding and an auxiliary winding;



a rotor having a yoke, a permanent magnet embedded in the yoke and a secondary conductor provided in a vicinity of a periphery of the yoke; and

a starter including:

a starting capacitor connected in series with the auxiliary winding; and

a current relay operable to close a circuit to the auxiliary winding from the starting capacitor when the synchronous induction motor is at rest, and to open the circuit after the synchronous induction motor is started, the current relay including:

a coil connected in series with the main winding;

a movable contact driven by the coil; and

a fixed contact connected in series with the circuit to attach the fixed contact; and

a compression unit to be driven by the synchronous induction motor.

32. (New) The electric hermetic compressor according to claim 29, wherein the current relay further includes a plunger incorporated with the movable contact, and the coil is operable to move the plunger in the direction against gravity to close the circuit when the motor is started, and the plunger is operable to be moved by gravity so as to open the circuit after the motor is started